

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

Approved for use through xx/xx/200x. OMB 0651-00xx
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

0110-001

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

Typed or printed name _____

Application Number

10/780,620

Filed

February 19, 2004

First Named Inventor

Jacobus C. HAARTSEN

Art Unit

2617

Examiner

TAYLOR, Barry W.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☐ attorney or agent of record.
Registration number _____

☒ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 36,075

/Kenneth B. Leffler, Reg. No. 36,075/

Signature

Kenneth B. Leffler

Typed or printed name

703-718-8884

Telephone number

June 2, 2008

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	MAIL STOP AF
)	
Jacobus C. HAARTSEN)	Group Art Unit: 2617
)	
Application No.: 10/780,620)	Examiner: TAYLOR, Barry W
)	
Filed: February 19, 2004)	Confirmation No.: 3162
)	
For: ADAPTIVE CORRELATION OF)	
ACCESS CODES IN A PACKET-)	
BASED COMMUNICATION)	
SYSTEM)	

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In conjunction with the Notice of Appeal filed concurrently herewith, reconsideration and allowance of the above-identified application are respectfully requested for at least the following reasons.

Claims 1-9, 24-32, and 47 stand rejected as allegedly being obvious over Orava (US 6,829,288) in view of Awater et al. (US 2002/0110105 - henceforth "Awater '105").

Dependent claims 22-23 and 45-46 also stand rejected as allegedly being unpatentable over Orava and Awater '105 further in view of Awater et al. (US 2005/0152317 -- henceforth "Awater '317"). It is respectfully requested that these rejections be withdrawn because they are believed to be the result of the following clear errors:

- Basing a rejection on a combination of references that, together, still lack all of the features of each rejected claim.
- Basing an obviousness rejection on an assertion that it would have been obvious to modify Orava with the teachings of Awater in a way that does not read on any of Applicant's claims.

These distinct arguments will be expanded upon below after a brief summary of exemplary embodiments of Applicant's invention.

In a local area network receiver, such as a Bluetooth® receiver, a symbol sequence representing an access code precedes received packets. In a traffic mode of operation,

packets will not be accepted by a receiver unless the access code matches an expected value ("reference code"). The access code is also used in a scan mode of operation as part of connection setup. Here too, a receiver will indicate successful reception of the access code only if there is sufficient agreement between the received signal and the reference.

Due to disturbances on the propagation channel, it is expected that some symbols in the received access code might be in error. To accommodate such an operating environment, the system is designed to declare successful reception of an access code even if a number of symbols are erroneous. Comparison of the received access code bit sequence with the reference sequence yields a correlation value. A successful match is indicated if the correlation value compares favorably with a given threshold level (e.g., if a value that is directly proportional to a degree of correlation exceeds the threshold).

Two types of mistakes can be made in this match detection process. If the desired access code was present, but was rejected because of too many errors, this is called a *False Rejection* ("FR"). Conversely, if the receiver thinks that the correct access code has arrived when, in fact, only noise or an incorrect access code has been received, then a *False Alarm* ("FA") is said to have occurred. The threshold value against which the correlation value is compared determines both the FA and FR rates: a higher threshold value reduces false alarms but increases false rejections, whereas lower threshold values do the opposite.

Applicant has recognized that the requirements on FA and FR during the scan mode are completely different from the FA and FR during the traffic mode. In traffic mode, the FR is crucial as it directly has an impact on the overall packet error rate. Therefore, a low threshold value is desirable. By contrast, in the scan mode, FA is crucial as it affects the power consumption in the idle state. To avoid starting the system on a wrong access code, or even on noise, a high threshold value is desirable. Clearly, there are contradictory requirements in the receiver regarding the match of the received signal with respect to the reference code.

Embodiments defined by independent claims 1, 24, and 47 address this problem by, *inter alia*, using a threshold adaptation strategy that includes:

- setting a threshold level to a first value if the receiver is in a scan mode;
- setting the threshold level to a second value if the receiver is in a traffic mode, wherein the second value corresponds to a lower degree of correlation than the first value; and

- comparing the correlation value (i.e., a correlation value generated by correlating the received signal with a reference code) with the threshold level.

Thus, in accordance with this aspect of the variously claimed embodiments, a communication device / method / machine readable storage medium considers the mode of operation (i.e., scan mode vs. traffic mode) and sets a threshold level accordingly, wherein the threshold value serves as a standard against which a correlation value is compared, the correlation value being one that is generated by correlating the received signal with a reference code. Reception of the access code is indicated only if the correlation value compares favorably with the threshold level.

1. **The combination of Orava and Awater '105 still lacks all of the features of each rejected claim.**

The Office correctly acknowledges that Orava does not show logic that sets a threshold level to a first value if the receiver is in a scan mode and logic that sets the threshold level to a second value if the receiver is in a traffic mode, wherein the second value corresponds to a lower degree of correlation than the first value (see page 3 of the Office Action). Instead, the threshold value used in the Orava arrangement appears to be static. (This is inferred by Orava's failure to describe a dynamically changeable threshold). The Office relies on Awater '105 as making up for these deficiencies. This reliance is unfounded for at least the following reasons.

Awater '105 similarly fails to describe using a dynamically changeable threshold, wherein the threshold value serves as a standard against which a correlation value is compared, *the correlation value being one that is generated by correlating the received signal with a reference code*. Consequently, any combination of Orava with Awater '105 would still lack these features, and would therefore be incapable of supporting an obviousness rejection against Applicant's claims.

In support of its rejection, the Office argues that

Awater also teaches in Bluetooth environment and improves on the roaming procedure for mobile devices when switching from one access point to another by applying a weight (i.e., threshold level) to an equation to be used by the mobile device wherein the weight depends on the state the mobile device is in (i.e., connect state reading on traffic mode or scan

state reading on scan mode) thus allowing the mobile to switch to an access point that provides the best overall quality (paragraphs 0089-0091, 0110).

The Office's argument overlooks the fact that Awater 105's weight function merely influences the combined communication quality and load (CQL) value, which in turn influences whether a handover will be performed. (See, e.g., Awater '105 at paragraphs 0097-0099.) However, the CQL value has no influence over whether the terminal considers a reference code to have been present in a received signal, as would be required to satisfy the terms of Applicant's claims. *That is, Awater '105's "weight" is in no way equivalent to Applicant's claimed "threshold level."* Consequently, even if the teachings of Awater '105 were to be incorporated into the arrangement of Orava, as now suggested by the Office, the result would be a terminal capable of making handover decisions based, in part, on whether the terminal is in a "connected scan state" or a "searching scan state". (*The Office appears to agree on this issue -- see header "2" below.*) However, how handover decisions are made in no way affects whether the terminal considers its reference code to have been present in a received signal because Awater '105's dynamically changeable CQL value (and dynamically changeable threshold -- see paragraph 0096) is not one against which the correlation value is compared. *Even in the combination, the relevant correlation value would still be compared against the static threshold taught in Orava.*

Moreover, neither Orava nor Awater '105 disclose that the second value of the threshold level [traffic mode] "corresponds to a lower degree of correlation than the first value [traffic mode]." To the contrary, Awater '105 at paragraphs 0089 and 0119 disclose the opposite, in that a weight value for the connect state is larger than that of the scan state.

Given these deficiencies in Awater '105, it is apparent that even if the teachings of Awater '105 were to be combined with those of Orava, the combination would still fail to include "setting a threshold level to a first value if the receiver is in a scan mode; setting the threshold level to a second value if the receiver is in a traffic mode, wherein the second value corresponds to a lower degree of correlation than the first value; [and] comparing the correlation value with the threshold level", as defined by each of independent claims 1, 24, and 47.

2. The Office's own description of what results when Orava is combined with Awater '105 does not read on any of Applicant's claims.

On page 4 of the final Office Action, the Office concludes "It would have been obvious ... to modify the invention as taught by Orava to assign weights as taught by Awater *so that the network device can switch to the access point that provides the best overall quality.*" (Emphasis added.) This is in agreement with Applicant's own analysis, that combining Orava and Awater '105 results in a terminal capable of making handover decisions based, in part, on whether the terminal is in a "connected scan state" or a "searching scan state". However, this has no bearing on the number of threshold levels used by the terminal when deciding whether an access code has been received, and does not read on any of Applicant's claims. Thus, the combination of Orava and Awater '105 cannot support the rejections.

For at least the foregoing reasons, as well as the fact that Awater '317 fails to make up for at least the above-described deficiencies of Orava and Awater '105 (the Office does not argue to the contrary), it is respectfully asserted that the subject matter defined by each of independent claims 1, 24, and 47, as well as that defined by their various dependent claims 2-9, 22-23, 25-32, and 45-46, is patentably distinguishable over the various combinations of the Orava, Awater '105, and Awater '317 publications, regardless of whether these documents are considered individually or in combination. Accordingly, it is respectfully requested that the various rejections of these claims under 35 U.S.C. §103(a) be withdrawn.

The application is believed to be in condition for allowance. Prompt notice of same is respectfully requested.

Respectfully submitted,
Potomac Patent Group PLLC

Date: June 2, 2008
P.O. Box 270
Fredericksburg, Virginia 22404
703-718-8884

By: /Kenneth B. Leffler, Reg. No. 36,075/
Kenneth B. Leffler
Registration No. 36,075